



**MOTOCZYSZ**

**Certificate**

**DEC 29 2006**

**of Correction**

December 19, 2006

Certificate of Correction Branch  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Re: Pat. No. 7,104,375; Appl. No. 10/633,296

Dear Sir or Madam:

This is a Request for Expedited Issuance of Certificate of Correction.

Claim 1 is incorrectly printed in the patent and should read as shown in the Examiner's Amendment to claim 16 (at the middle of page 2 of the Notice of Allowability). Please make the appropriate correction.

Thank you.

Sincerely,

Jennifer Lin  
Reg. No. 54,272

**Certificate**  
**DEC 29 2006**  
**of Correction**

Enclosures: Certificate of Correction  
Excerpt of Pat. No. 7,104,375  
Notice of Allowability

**JAN 1 - 3 2007**

**UNITED STATES PATENT AND TRADEMARK OFFICE  
CERTIFICATE OF CORRECTION**Page 1 of 6

PATENT NO. : 7,104,375

APPLICATION NO.: 10/633,296

ISSUE DATE : Sep. 12, 2006

INVENTOR(S) : Michael Czysz

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Claim 1 from col. 6, line 26 and on should read:

"a final output shaft coaxial with a swingarm pivot at which the swingarm is coupled to-- one of-- the frame-- and the engine--;

a rear wheel rotatably coupled to the swingarm, and coupled to be driven by torque from the final output shaft; and

a slipper clutch coupling the primary drive output to the final output shaft to provide spragged torque transfer from the primary drive output to the rear wheel, and to control back-torque transfer from the rear wheel to the primary drive output by frictional clutch plate slippage--, the slipper clutch including a slipper clutch shaft which is parallel with and not coaxial with the final output shaft and perpendicular to the primary output shaft, the slipper clutch shaft being engaged by gears to drive the final output shaft--."

**MAILING ADDRESS OF SENDER (Please do not use customer number below):**

Jennifer Lin  
915 NE Davis  
Portland, OR 97232-2933

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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ria, such as a slipper clutch temperature sensor; as the slipper clutch overheats, the stepper motor may select a cam profile position which changes the amount of back-torque. In another embodiment, the stepper motor may be controlled by the rider, to increase the stack pressure as the friction plates wear over the course of a long race.

FIG. 7 illustrates another embodiment of a slipper clutch system 130 which is dynamically adjustable. Rather than a stepper motor, this embodiment uses a hydraulic piston 132 driven by a hydraulic cylinder 134 in response to pressure from a hydraulic line 136. The hydraulic pressure may be applied automatically under machine control, as with the stepper motor, or it may be operated by a simple mechanism such as a thumb brake.

FIG. 8 illustrates another embodiment of a slipper clutch assembly 140 according to this invention. The slipper clutch is adapted with a motor 142 actuating a worm gear set 144, 146. The worm gear 146 turns a threaded shaft 148 which is engaged with a threaded push rod 150. The pusher is kept from rotating with the shaft by, for example, a keyway 152 engaged with the frame or other structure (not shown) of the vehicle.

In operation, the dynamically adjustable slipper clutch 80 may be adjusted by the rider, or by an automated system (not shown) in the vehicle such as the vehicle's computerized engine controller, or other suitable mechanism. The adjuster may be used only infrequently, such as for periodically compensating for friction plates wearing progressively thinner, slipper clutch temperature, or the like. Or, the adjuster may be used quite frequently, to make on-the-fly alterations in the performance of the slipper clutch. These dynamic adjustments may be made in response to any variety of factors, such as, for example, which gear the motorcycle is in, how fast the motorcycle is traveling, throttle position, racetrack position, slipper clutch temperature, braking force applied by a rider to a brake of the motorcycle, engine rpm, changing fuel load, tire temperature, and so forth. For example, it may be desirable to have lots of engine braking at the end of the front straight, such that the back end of the motorcycle "comes around" and helps the motorcycle turn into a low-speed chicane, but have very little engine braking at the entrance to another corner on the racetrack. In this instance, the dynamic back-torque adjuster will be repetitively increasing and decreasing the tension on the friction stack, lap after lap. Furthermore, as the race progresses and the motorcycle's fuel load comes down, it may be desirable to gradually back off the engine braking a small amount each lap, to compensate for the decreasing mass of the machine. On the other hand, it may be necessary to gradually tighten up the stack, as the friction plates wear or as the stack temperature rises. The slipper clutch may be equipped with a variety of suitable sensors (not shown) for aiding in this methodology, such as a slipper clutch temperature sensor, a connection to the engine or ignition controller for detecting rpm or racetrack position or gear selection, an accelerometer for detecting braking force, and so forth, as well as a manual adjuster switch placed within easy reach of the rider.

# CONCLUSION

When one component is said to be "adjacent" another component, it should not be interpreted to mean that there is absolutely nothing between the two components, only that

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they are in the order indicated. When one component is said to be "coupled to" or "engaged with" another component, it should not necessarily be interpreted to mean that there are no intermediate components between them; coupling and engagement may be direct or indirect.

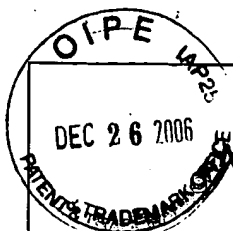
The various features illustrated in the figures may be combined in many ways, and should not be interpreted as though limited to the specific embodiments in which they were explained and shown.

Those skilled in the art having the benefit of this disclosure will appreciate that many other variations from the foregoing description and drawings may be made within the scope of the present invention. Indeed, the invention is not limited to the details described above. Rather, it is the following claims including any amendments thereto that define the scope of the invention.

What is claimed is:

1. A motorcycle comprising:
  - a frame;
  - an engine coupled to the frame and including a crankshaft and a primary drive output;
  - a swingarm pivotably coupled to one of the frame and the engine;
  - a primary clutch coupling the crankshaft to the primary drive output;
  - a final output shaft coaxial with a swingarm pivot at which the swingarm is coupled to the frame;
  - a rear wheel rotatably coupled to the swingarm, and coupled to be driven by torque from the final output shaft; and
  - a slipper clutch coupling the primary drive output to the final output shaft to provide spragged torque transfer from the primary drive output to the rear wheel, and to control back-torque transfer from the rear wheel to the primary drive output by frictional clutch plate slippage.
2. A motorcycle comprising:
  - a frame;
  - an engine coupled to the frame and including a crankshaft and a primary drive output;
  - a swingarm pivotably coupled to one of the frame and the engine;
  - a primary clutch coupling the crankshaft to the primary drive output;
  - a final output shaft;
  - a rear wheel rotatably coupled to the swingarm, and coupled to be driven by torque from the final output shaft;
  - a slipper clutch coupling the primary drive output to the final output shaft to provide spragged torque transfer from the primary drive output to the rear wheel, and to control back-torque transfer from the rear wheel to the primary drive output by frictional clutch plate slippage;
  - a dynamic adjuster for altering the back-torque transfer; and
  - a controller coupled to the dynamic adjuster, whereby a rider of the motorcycle may control the back-torque transfer while riding the motorcycle.
3. The motorcycle of claim 1 wherein:
  - the secondary output shaft rides is coupled to the swingarm by bearings which are coaxial with the swingarm pivot.

\* \* \* \* \*



## Notice of Allowability

Application No.

10/633,296

Examiner

Saúl J. Rodríguez

Applicant(s)

CZYSZ, MICHAEL

Art Unit

3681

**- The MAILING DATE of this communication appears on the cover sheet with the correspondence address-**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed August 29, 2005.
2. ☒ The allowed claim(s) is/are 16, 18 and 22.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

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### EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Richard C. Calderwood on November 11, 2005.

The application has been amended as follows (underlined text denote changes):

On page 5 of the detailed description, line 19, change "47" to ~~48~~.

On page 5 of the detailed description, line 27, delete "44".

Substitute claim 16 (filed August 29, 2005) with the following claim:

"16. A motorcycle comprising:

a frame;

an engine coupled to the frame and including a crankshaft and a primary drive output;

a swingarm pivotably coupled to one of the frame and the engine;

a primary clutch coupling the crankshaft to the primary drive output;

a final output shaft coaxial with a swingarm pivot at which the swingarm is coupled to one of the frame and the engine;

a rear wheel rotatably coupled to the swingarm, and coupled to be driven by torque from the final output shaft; and

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a slipper clutch coupling the primary drive output to the final output shaft to provide spragged torque transfer from the primary drive output to the rear wheel, and to control back-torque transfer from the rear wheel to the primary drive output by frictional clutch plate slippage, the slipper clutch including a slipper clutch shaft which is parallel with and not coaxial with the final output shaft and perpendicular to the primary output shaft, the slipper clutch shaft being engaged by gears to drive the final output shaft."

Cancel claim 21.

The following changes to the drawings have been approved by the examiner and agreed upon by applicant: Fig. 4 has been amended to change an occurrence of reference numeral "48" to -47—(see enclosure). In order to avoid abandonment of the application, applicant must make these agreed upon drawing changes.

The following is an examiner's statement of reasons for allowance: Claim 16 is allowable in view of the examiner amendment outlined above. Of particular patentable significance is the shaft orientation a slipper clutch having frictional and spragged engagement, and primary output shaft, and final output shaft. Concerning claim 18, the claim is allowable for the reasons set forth in the amendment filed August 29, 2005. Specifically, the claim has been amended to recite a combination that was deemed allowable in the Office Action mailed April 29, 2005. The resulting amended combinations are not shown or taught by the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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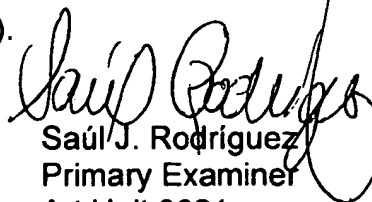
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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saúl J. Rodríguez whose telephone number is (571) 272-7097. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on (571) 272-7095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Saúl J. Rodríguez  
Primary Examiner  
Art Unit 3681

  
SJR

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